It was found in *Pool's Hole* in *Derbyſhire*. Its Sutures or Diaphragms reſemble thoſe of ſome of the larger *Cornua Ammonis*; but its Shape beſpeaks it to be a Species of *Nautilus*; and it is thought to be a Non-deſcript, both in its natural and foſſil State.

VIII. *The Subſtance of a Letter from Mr.* William Arderon *F. R. S. to Mr.* Henry Baker *F. R. S.*

Read May 12. 1748.

OF all the ſeveral Kinds of Fiſh which for ſome Years paſt I have been keeping in glaſs Jars (in hopes of becoming acquainted with the Nature and Properties of theſe Animals, by having them daily under my Inſpection) none ſeems more impatient of Impriſonment, if I may ſo call it, than the Roach; nor, if they are well look'd after, and ſupplied often enough with freſh Water, have I obſerved any, except the Roach, to become diſtempered. But moſt commonly, after this Fiſh has been a little while confined, the finny Part of its Tail begins to drop off Piece by Piece; and when the finny Part is all gone, a ſort of Mortification ſeizes upon the Tail itſelf, and gradually creeps along until it reaches the Inteſtines, at which time the Fiſh immediately dies.

The laſt Roach I had under this Diſorder was about the Beginning of *January*; when in the Space of a Month, it had loſt the greateſt Part of the Fin, which induced me to clip off the reſt, hoping thereby

thereby to ſtop the Progreſs of the Mortification. But this was of no manner of Service that I could perceive: The Diſtemper ſtill gained Ground; and as it increaſed, a fine fibrillous Subſtance grew out from it, and appeared like what the Picture ſhews at *Fig.* 3. in TAB.

Theſe Fibrils, when examined by the Microſcope, ſhew themſelves to be a Number of minute Tubes, filled with a browniſh Liquor; and this Liquor, upon preſſing them, becomes immediately diſcharged.

A ſmall Piece of this Fiſh, with the Fibrils growing out of it, as ſeen by the fourth Magnifier of Mr. *Cuff*'s double Microſcope, is ſhewn at *Fig.* 4.

When firſt I perceived this fibrous Subſtance inveloping the Fiſh's Tail, I ſuppoſed it to be nothing but a Mouldineſs, of that kind which frequently is ſeen upon decayed Fleſh and Fiſh; but, upon Trial, I found it to be of a much ſtronger Texture and Conſiſtence than ſuch Mouldineſs is ever known to have; for, notwithſtanding I have ſeveral times let a full Stream of Water run upon it from a Cock, I could never waſh it off.

This Fiſh lived with me till the latter End of *March*, and then died; having for many Days before its Death lain at the Bottom of the Jar, without being able to riſe.

As the Mortification advanced, and came nearer to its Inteſtines, the Quickneſs of its taking Water in at the Mouth increaſed, till at laſt it took it in three times faſter than a lively ſtrong Fiſh did.

On my cutting off Part of the Fiſh's Tail, in hopes of ſtopping the Mortification, the Equilibrium of the Body was ſo far loſt, that it hung in the Water moſt commonly with the Head downwards,

and could never afterwards continue in any other Poſture, without great Strugglings, or ſinking down to the Bottom of the Veſſel. Which may ſerve to ſhew how nicely and wonderfully the Bodies of Fiſhes are balanced, for the keeping them in an horizontal Poſition; ſince in this Caſe the loſing a few Grains of the Tail could ſo ſenſibly deſtroy the Equilibrium, as to render the reſt of its Fins almoſt uſeleſs.

I dare not however aſſert it will happen thus to all ſorts of Fiſh on cutting off the Tail; nor does it to the Roach immediately: For as it is a Poſture very unnatural and troubleſome to Fiſhes, they exert all their Strength to prevent their Heads from ſinking downwards; until, being wearied out, they at laſt are forced to ſubmit. I remain,

Dear Sir,

Norwich, April 14. 1748.

Your moſt obedient Servant,

W. Arderon.

IX. *A Letter from Mr.* Robert Roche *to the* Preſident, *of a* Fuſtian Frock *being ſet on Fire by* Electricity.

Honoured Sir, *London, May* 17, 1749.

Read May 19. 1747. IF your Goodneſs will excuſe the Liberty a Stranger has taken in giving you this Trouble, hoping the following Account will